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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/759,920	01/12/2001	Wayne Kelly	MCA-489 US	2777

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EXAMINER
MENON, KRISHNAN S

ART UNIT	PAPER NUMBER
1723	9

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/759,920	KELLY ET AL.
	Examiner	Art Unit
	Krishnan S Menon	1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 December 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22 and 24-57* is/are pending in the application.

4a) Of the above claim(s) *32-57* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22 and 24-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

The information submitted by the applicant on 12/9/02 in support of the priority claim to provisional application for claims 3,4, 9 and 10 are acknowledged.

Claims 1-22 and 24-57 are pending in this application. Claim 23 is cancelled.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-22 and 24-31, drawn to filter and method of filtering, classified in class 210, subclass 767.

II. Newly submitted claims 32-57, drawn to a process for "providing a filter", classified in class 204, subclass 521.

Newly submitted claims 32-57 (group II) directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process like making a dynamic membrane, or by pH adjustment. The preamble of claim 32, "process of providing" is unclear as to whether it is a process of making or a process of using. The examiner has considered it as a process of making for examinations purposes.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 32-57 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Specification

The disclosure is objected to because of the following informalities: Page 15 first para describes the Figure 5, in which the KCl is stated as having "open symbols" and HF as having "closed symbols". Figure 5 shows the reverse. For examination purposes, the terminology of Figures 5-7 is considered as correct.

Appropriate correction is required.

Claim Objections

Claim 24 is objected to as being depending from the cancelled claim 23. Dependency of claim 24 should be corrected, or it should be re-written in the independent form. The examiner has considered claim 24 as depending from claim 22 for examination purposes.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-13,19-21, 25,26, 30 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Pall (US 4,617,124).

Pall (124) teaches a porous filter and a system with a nominal diameter between 0.1 and 10 microns (col 12 lines 24-31) and surface substantially neutral in a pH above 4 (see tables I-VI) as in instant claims 1, 5 (The applicant defines "substantially neutral" as having a zeta potential within 10 and –10 mV: page 6, para 1 of the instant specification). The fluid for filtration is aqueous and neutral at the selected pH as in instant claim 2(col 12 lines 14-24). Zeta potential is within 10 and –10 mV, or 5 and –5 mV as in instant claim 3 and 4 (tables 1-6). Fluid is aqueous and non-aqueous blend with zeta potential between 5 and –5 mV as in instant claim 6 (example 2). LRV of at least 3 as in instant claims 7-10 (tables I and II). The filter surface is inherently neutral as in instant claim 12 (Table I). Surface is formed by surface modification (col 2 lines 53-59) as in instant claim 13. Filter made from polyolefins, etc., as in instant claims 19 - 21(col 7 lines 18-43); acrylic acid derived monomers for surface treatment (col 6 lines 32-40) as in instant claims 25,26; The LRVs of at least 3 as in instant claim 30 (tables) and pore size as in 31 (col 12 lines 25-32)

Claim 11: Pall (124) teaches a method of filtration of liquids comprising a fluid at about pH 4, containing contaminants, filter having nominal pore size from 0.1 to 10 microns (abstract, table I).

2. Claims 22 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Pall (US 4,431,545).

Pall (545) teaches a filter comprising one or more filters having pore diameters between 0.1 and 10 microns, and having IEP within a selected pH above 4 (col 10 lines 4-25), and maintaining weak charge on the surface as in instant claim 22 (col 2 lines 19-24). The filter has two filters, each having a different IEP (abs) as in instant claim 24.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 14,15 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pall (124) in view of Mayhan (US 4,311,573).

Pall (124) discloses all the elements of instant claims as in claims 1 and 31 above, except the photoinitiator and cross-linking or grafting modification to the filter surface. Mayhan (573) teaches such modifications (abstract, col 6 lines 18-35, examples 4,5). It would be obvious to one of

ordinary skill in the art at the time of invention to use the Mayhan (573) teachings to modify the surface of the Pall (545) filters as alternate but equivalent hydrophilic surface product for equivalent function because Mayhan (573) teaches these methods to improve the hydrophilicity of the membrane (abstract).

2. Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pall (124) in view of McRay (US 5,582,725).

Pall (124) does not disclose ceramics or metals as the filter media. McRay (725) discloses ceramics and metals as filter media (col 2:20-33). One of ordinary skill in the art at the time of invention could chose metal or ceramic materials as alternate but equivalent to the materials in Pall (124) teachings for the filters, and the metals could be stainless steel, etc., because they give increased filtration pressure resistance.

3. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pall (124) in view of Pall (US 4,430,479).

Pall (124) teaches all the elements of claim 17 as in claim 1 above, except the cellulosic materials for the filter. Pall (479) teaches using cellulosic filter for microporous membranes (col 1 lines 44-53). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Pall (479) in the teachings of Pall (124) to provide a hydrophilic surface before surface treatment (Pall 124: col 3 lines 30-50) because such cellulosic material would provide hydrophilic properties without being water soluble.

Response to Arguments

Applicant's arguments filed on 9/30/02 have been fully considered but they are not persuasive.

The following response to the arguments should be considered in the light of the new grounds of rejection necessitated by the amendment of independent claims.

Applicant argues that no prior art recognizes the phenomena of Van der Waals forces in the filtration process. However, identifying the phenomenon of filtration, whether Van der Waal's forces, or mechanical sieving, are material only for the understanding of the invention. [The claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977).] The prior arts referenced teach filters that are "substantially neutral" as defined and claimed by the applicant with zeta potentials between −10mV and +10 mV, pore size between 0.1 and 1 microns, and rejects solutes with 3 or better LRV.

Applicant's arguments about the 35 USC 102 rejection of claims 1,2,5,7,8,11-13,25,26,30 and 31 based on Pall (545) are moot since there is a new ground for rejection brought by the amendment of claims 1,5 and 11. For claims 22 and 24, Pall (545) teaches exactly what is claimed as recited in the rejection.

Applicant argues that Pall (124) teaches filters having positive zeta potential. While Pall (124) recites the filter as being positive in col 12 lines 1-18 and 58-68, the actual value of the potential is less than 10 mV, and less than 5 mV except in Table 1, this filter is substantially neutral as defined by the applicant (see page 6 para 1 of the specification).

Applicant argues that Mayhan (573) and McRay (725) do not teach the importance of matching the filter surface with the fluid so that the filter surface is substantially neutral. Mayhan reference is used only to show the grafting modification in the teachings of Pall (124) to provide an

improved surface modification for making a substantially neutral membrane. The claims 1,14,15 and 27-29, for which Mayhan is used as a secondary reference, do not specify any fluid to match with the surface. McRay teaches use of porous ceramic and metal substrates, which would add to mechanical strength for the filter as taught by Pall (124).

Applicant's arguments about the Alder (612) reference are moot since there is new ground for rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 703-305-5999. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 703-308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Krishnan S. Menon
Patent Examiner
February 3, 2003

W. L. WALKER
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